

Technology Integrated Activities in the Elementary Curriculum

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INTRODUCTION

This chapter presents four technology-integrated activities for use in elementary curriculum. These educational activities were designed to be easily duplicated by teachers and to encourage students to be creative and use problem-solving skills. Most of the technology-integrated activities were developed using the Internet and Microsoft programs that are commonly available, such as Microsoft Word (2001), Excel (2001) and Paint (2001).

The activities can integrate technology into a variety of subject areas that include mathematics, science, art, social studies and language arts. The technology activities included are: Playing Musical Computers with Creative Writing; What's the Connection?; Be an Artist, Paint a Picture-Story; and Where in the World is ...? Each technology-integrated activity includes a description, an illustrated example of the activity, additional ideas for teachers to motivate students and suggestions of what students can do with the projects.

BACKGROUND

All of the activities were developed using the constructivist learning theory. Sharp (2002) explains that constructivism evolved from the work of developmental theorists such as Jerome Bruner, Jean Piaget, Lev Vygotsky and Seymour Papert. Constructivism is based on the theory that students grow their knowledge through the process and completion of various activities. Shelly, Cashman, Gunter and Gunter (2004) noted that technology provides opportunities for teachers to develop a constructivist learning environment for students to construct their knowledge.

Papert (1993), an MIT professor that worked with Piaget, believes that students should be the creators rather than the consumers of knowledge. Even in the

early years of computers, Papert encouraged educators to utilize the computer as a tool for students to use in their learning process.

EXAMPLES OF INTEGRATED TECHNOLOGY ACTIVITIES

Playing Musical Computers Creative Writing Activity

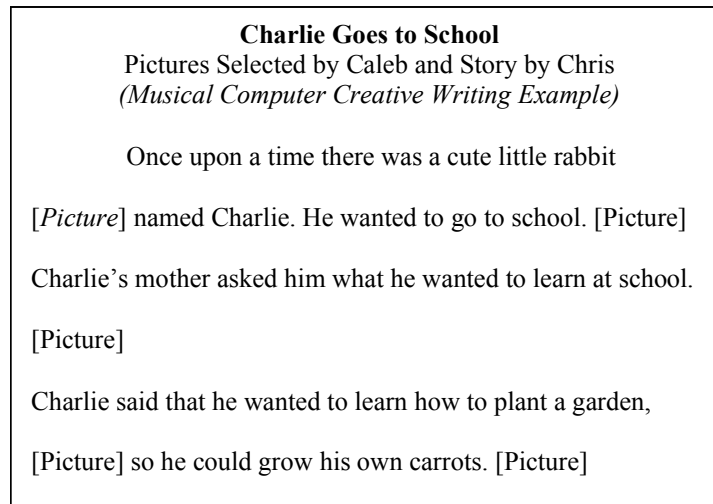
Playing Musical Computers Creative Writing activity has proven to be an effective way for teachers to begin integrating technology into their curriculum. This activity is comprised of two parts: picture selection and creative writing. Students begin this activity by opening a blank page in a word processing program, such as Microsoft Word 2002 (2001), and select a designated number of pictures from clip art or a picture file to paste on the blank page.

After the students have copied and pasted their pictures, the teacher explains that they are going to play musical computers by moving to a different computer where one of their peers has selected pictures. After moving to a computer with pictures that were selected by a peer, the student then writes a creative story that includes all the pictures selected by their peer (see Figure 1). The assortment and selection of pictures usually inspire the students to write creative and interesting stories.

Additional Ideas to Motivate Students with Musical Computers

- Change the number of pictures for creative writing to match the level and needs of students. Example: The teachers may want young or lower-level students to select only four pictures.
- Develop a picture gallery from pictures relating to specific subject areas. Example: A social

Figure 1. Sample page for musical computers and writing activity



studies teacher can select relevant pictures from the clip art program on China or the rain forest.

- Have students emphasize a particular part of speech when writing. Example: Students can print out their stories and underline all of the adjectives or exchange papers with a peer and find the adjectives in the peer's story.
- Printed stories can be bound together to make a class book. Example: A class book of stories about China or a collection of students' creative stories.
- Build-a Story, a progressive writing activity. Students can take turns going to the computer to add a section to the story. Together the students can build a class story. Example: The story can center on a class field trip or topic in a subject area (e.g., If I Lived in Brazil, I Would ...).

What Students Can Do with Musical Computer Project

Students can print their stories and share them with peers in small groups or with the whole class. Class books can be developed by laminating and binding the students' pages. The students can also share their stories with younger students in the school by reading their story to the younger students and giving them a copy to keep.

What's the Connection? Activity

What's the Connection? is a versatile activity in its usage in the classroom. It can be easily adapted to integrate technology with science, social studies and language arts. The What's the Connection? activity can also be used to introduce, develop or assess a topic in a subject area. This activity is implemented by using a program that can develop a concept-webbing map (e.g., Inspiration, 1999). Microsoft Word 2002 (2001) has the capability to develop webbing through the use of its drawing tools. A concept map helps students to understand the attributes and the relationships of the main idea or subject (Shelly et al., 2004).

After developing a web map, the webbing file can be saved as a document template. This allows the template file to be used over and over without students changing the original template.

Additional Ideas to Motivate Students With What's the Connection?

- Change the number of keyword ovals to match the level and needs of students. Example: Teachers may want to have fewer keyword ovals for young or lower-level students and additional ovals for older or higher-level students.

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